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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/542,573 | 07/19/2005 | Takashi Fukutomi | OGW-0378 | 6961 |

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| EXAMINER | |
|---|---|
| FISCHER, JUSTIN R | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1791 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/542,573 | FUKUTOMI ET AL. | |
| | Examiner | Art Unit | |
| | Justin R. Fischer | 1791 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *71905*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama (JP 52072742) and further in view of Takiguchi (JP 54027105). Kageyama is directed to a composition comprising less than 40 phr of a liquid isoprene based on 100 phr of a solid rubber (rubber latex before being solidified) and having an extremely high tensile strength and elongation at break. The reference further teaches that the composition can be used as a general purpose rubber or additional applications, such as reclaimed tires, repair rubbers, etc. One of ordinary skill in the art at the time of the invention would have found it obvious to use such a composition on the inner surface of a tire since it is described in a similar repair process and similar compositions having high elongations at break are recognized as being used on the inner surface of a tire as a puncture preventing layer/film, as shown for example by Takiguchi (Abstract). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to use the composition of Kageyama on the inner surface of a tire. It is additionally noted that the end point of Kageyama (40 phr of liquid isoprene) represents an express embodiment that falls within applicant's range).

With respect to the breaking elongation and tensile strength, the composition of Kageyama is expressly described as having a high breaking elongation and a high tensile strength- one of ordinary skill in the art at the time of the invention would have been able to appropriately select the desired mechanical properties as a function of the specific tire and the intended use of said tire. Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed mechanical properties (all examples having properties in accordance to claimed invention).

Regarding claim 2, such puncture preventing layers conventionally have a thickness below 2.0 mm. Additionally, the thickness of the puncture preventing layer is a function of the specific tire being manufactured and the intended use of said tire. Applicant has not provided a conclusive showing of unexpected results to establish a criticality for a thickness below 2.0 mm.

With respect to claim 4, mold release agents are commonly used in tire manufacturing processes in order to eliminate any sticking between the bladder and the inner surface of the tire. While it is desired to remove such a release agent, some amounts of release agent do remain on the inner surface of the tire and applicant has not provided a limitation regarding the dimensions of the release agent or the makeup of the release agent. It is emphasized that the claim only requires the presence of a mold release agent.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama and Takiguchi as applied in claim 1 above and further in view of Farber (US

3,981,342). While Kageyama is silent with respect to the molecular weight of the liquid isoprene, the claimed range is consistent with the molecular weight of liquid rubbers used in similar sealant/puncture preventing layers, as shown for example by Farber (Column 3, Lines 28-32). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to use a liquid isoprene having a molecular weight between 20,000 and 40,000. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed molecular weights.

4. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama and Takiguchi as applied in claim 1 above and further in view of Miyasato (JP 72018238). As detailed above, Kageyama in view of Takiguchi substantially teaches the claimed tire construction including a puncture preventing film on the inner surface of said tire. The references, though, fail to disclose the specific application means of the claimed invention (pouring composition and drying during rotation). Miyasato, on the other hand, discloses a method of applying a composition to the inner surface of the tire comprising pouring said composition into a tire and rotating said tire to uniformly disperse said composition over the inner surface of the tire and form a film (Abstract). Thus, the claimed application technique represents a known method of applying compositions to the inner surface of tires- one of ordinary skill in the art at the time of the invention would have found it obvious to use any known application technique absent a conclusive showing of unexpected results.

With respect to claim 8, mold release agents are commonly used in tire manufacturing processes in order to eliminate any sticking between the bladder and the inner surface of the tire. While it is desired to remove such a release agent, some amounts of release agent do remain on the inner surface of the tire and applicant has not provided a limitation regarding the dimensions of the release agent or the makeup of the release agent. It is emphasized that the claim only requires the presence of a mold release agent.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama, Takiguchi, and Miyasato as applied in claim 6 above and further in view of Farber. While Kageyama is silent with respect to the molecular weight of the liquid isoprene, the claimed range is consistent with the molecular weight of liquid rubbers used in similar sealant/puncture preventing layers, as shown for example by Farber (Column 3, Lines 28-32). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to use a liquid isoprene having a molecular weight between 20,000 and 40,000. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed molecular weights.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin R Fischer
Primary Examiner
Art Unit 1791

JRF
January 3, 2008